

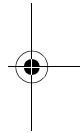
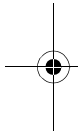


Cat. No. 14-1116 A  
**OWNER'S MANUAL**

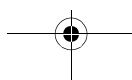
Please read before using this equipment.

# CTR-109

## AC•DC Portable Cassette Recorder



# OPTIMUS®



## FEATURES

Your RadioShack CTR-109 AC•DC Portable Cassette Recorder is a multi-functional recorder that includes a tone control and tape counter. Easy to use and reliable, it is ideal for both personal and business use. Its features include:

**Automatic Stop** — protects the tape and tape handling parts by automatically stopping the tape when it reaches the end.

**Tape Counter** — helps you locate specific sections on the tape.

**Built-In Condenser Microphone** — gives you high sensitivity for recording speakers from several feet away, such as at conferences.

**MIC Jack** — lets you connect an optional external microphone to record from longer distances.

**Automatic Level Control (ALC) Circuit** — automatically ensures the proper recording level.

**Record Indicator** — lights steadily to confirm you are recording.

**Tone Control** — lets you customize the sound to your personal preference.

**Cue/Review** — lets you listen to recordings at high speed so you can find a particular section.

**Three Power Sources** — let you power the recorder from four C batteries, standard AC power (with the supplied power cord), or vehicle DC power (with an optional DC adapter).

**AUX Jack** — lets you connect from an external sound source so you can record directly from it.

**Supplied Earphone** — lets you listen to the recorder without disturbing others.

**Supplied Erase Plug** — makes erasing a cassette tape easy.



**Built-In Carrying Handle** — lets you easily carry the cassette recorder anywhere you go.

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**Warning:** To prevent fire or shock hazard, do not expose this product to rain or moisture.

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK. DO NOT OPEN.	
<b>CAUTION:</b> TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER OR BACK. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.		



This symbol is intended to alert you to the presence of uninsulated dangerous voltage within the system's enclosure that might be of sufficient magnitude to constitute a risk of electric shock. Do not open the system's case.



This symbol is intended to inform you that important operating and maintenance instructions are included in the literature accompanying this system.

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## PREPARATION

### CONNECTING POWER

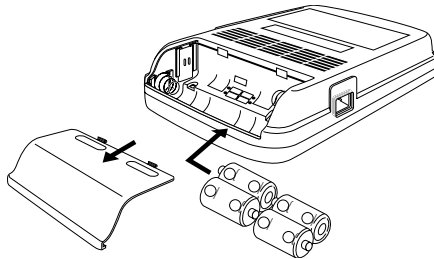
You can power the CTR-109 from any of three power sources:

- Internal batteries
- Standard AC power (with the supplied power cord)
- Your vehicle's cigarette-lighter socket (with an optional DC adapter)

**Note:** Connecting the power cord or a DC adapter disconnects the internal batteries.

### Using Internal Batteries

You can power the CTR-109 from four C batteries (not supplied). For the best performance, we recommend alkaline batteries, such as RadioShack Cat. No. 23-551/651.



1. Press down on the battery compartment cover and slide it off in the direction of the arrow on the cover.

2. Install the batteries as indicated by the polarity symbols (+ and -) marked inside the compartment.

#### Cautions:

- Use only fresh batteries of the required size and recommended type.
- Do not mix old and new batteries, different types of batteries (standard, alkaline, or rechargeable), or rechargeable batteries of different capacities.

3. Replace the cover.

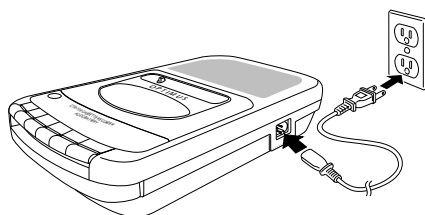
When the record indicator becomes dim, replace the batteries.

#### Cautions:

- Always dispose of old batteries promptly and properly.
- Never leave dead, old, or weak batteries in the CTR-109. They can leak chemicals and corrode or damage electronic circuits.
- If you do not plan to use the CTR-109 for a week or more, or if you plan to use an adapter only, remove the batteries to protect the CTR-109 from possible battery leakage.

## Using AC Power

To power the CTR-109 from standard AC power, plug the supplied power cord into the **AC IN** jack on the side of the CTR-109. Then plug the other end into a standard AC outlet.



### Cautions:

- Always plug the power cord into the **AC IN** jack before you plug it into the AC outlet, and always unplug the power cord from the AC outlet before you unplug it from the **AC IN** jack.
- The power cord has a polarized plug that is designed to fit into the recorder's jack only one way. If the plug does not easily fit into the jack, do not force it. Simply turn it over and try again.

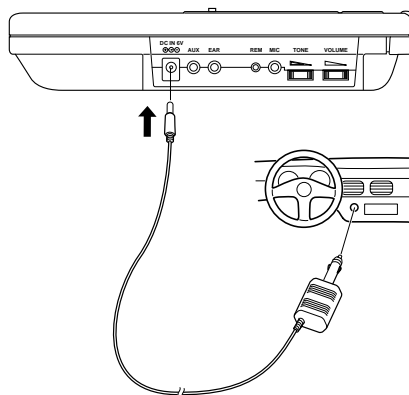
## Using Vehicle Battery Power

You can power the CTR-109 from your vehicle's cigarette-lighter socket using a DC adapter, such as Cat. No. 273-1802 (not supplied).

### Cautions:

- You must use a DC adapter that supplies 6 volts and delivers at least 300 milliamps. Its center tip must be set to negative, and its plug must correctly fit the CTR-109's **DC IN 6V** jack. The recommended adapter meets these specifications. Using an adapter that does not could damage the CTR-109 or the adapter.
- Always plug the adapter into the CTR-109 before you plug it into the cigarette-lighter socket, and always unplug the adapter from the cigarette-lighter socket before you unplug it from the CTR-109.

Follow these steps to use vehicle battery power.

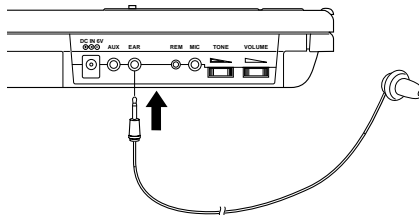


1. Set the DC adapter's voltage switch to 6V.
2. Insert the adapter's barrel plug into the CTR-109's **DC IN 6V** jack.

3. Insert the adapter's larger plug into the vehicle's cigarette-lighter socket.

## USING AN EARPHONE

For private listening, insert the supplied earphone's 1/8-inch plug into the **EAR** jack.



**Note:** Connecting the earphone automatically disconnects the built-in speaker.

## Listening Safely

To protect your hearing, follow these guidelines when you use the earphone.

- Set the volume to the lowest setting before you begin listening. After you begin listening, adjust the volume to a comfortable level.
- Do not listen at extremely high volume levels. Extended high volume listening can lead to permanent hearing loss.

- Once you set the volume, do not increase it. Over time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

## Traffic Safety

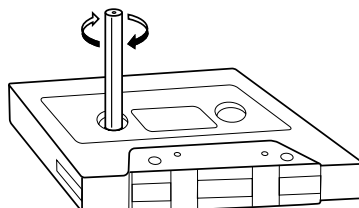
Do not wear an earphone while operating a motor vehicle or riding a bicycle. This can create a traffic hazard and can be illegal in some areas.

Even though some earphones let you hear some outside sounds when listening at normal volume levels, they still can present a traffic hazard.

## OPERATION

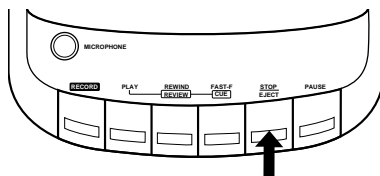
### LOADING A CASSETTE TAPE

1. Take up any slack in the tape by turning one of the cassette's hubs with a pencil.

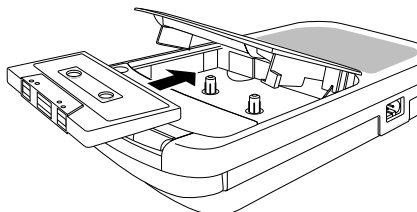


**Caution:** If you do not remove the excess slack, the tape could become tangled in the record/playback mechanism.

2. Press **STOP/EJECT** to open the cassette compartment door.



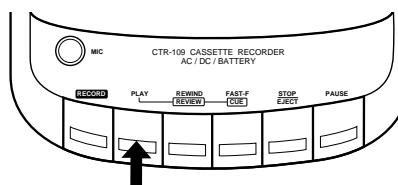
3. Load the cassette into the slot in the door with its open edge out, the side you want to play facing up, and its full reel to the left.



4. Close the door.

### PLAYING A CASSETTE TAPE

1. Load the cassette tape.
2. Press **PLAY**. The cassette plays until it reaches the end of the side, then it automatically stops.

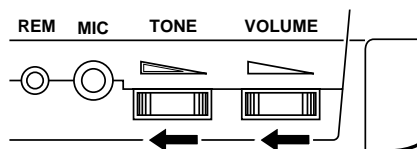


#### Notes:

- Press **PAUSE** to temporarily stop playback. Press **PAUSE** again to resume playback.
- If you hold down **REWIND/REVIEW** or **FAST-F/CUE** while the tape is playing, you can hear the tape as it moves at a faster speed. This makes it easy to locate a specific part of a recording. When you release **REWIND/REVIEW** or **FAST-F/CUE**, the tape plays at its normal speed.



3. Adjust **VOLUME** and **TONE** as desired.



4. Press **STOP** to completely stop playback before it automatically stops. Press **STOP/EJECT** again to open the cassette compartment and remove the cassette tape.

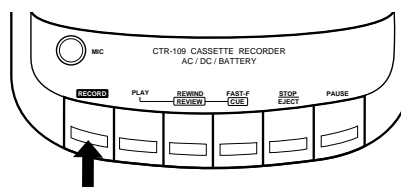
## RECORDING

### Notes:

- Before you load a cassette tape for recording, be sure its erase-protection tabs are in place (see "Preventing Accidental Erasure" on Page 12).
- The recorder's Automatic Level Control (ALC) circuit automatically adjusts the recording level. **VOLUME** has no effect on recording.

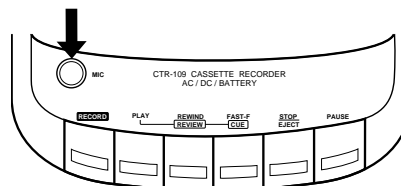
## Using the Built-In Microphone

1. Load a blank cassette tape, or one you want to record over, into the cassette compartment.
2. Place the CTR-109 2 to 3 feet from the recording source.
3. Press **RECORD** to begin recording. Both **PLAY** and **RECORD** lock down.



**Note:** To temporarily stop recording, press **PAUSE**. Press **PAUSE** again to resume recording.

4. Speak into **MIC**.



5. Press **STOP/EJECT** to stop recording.

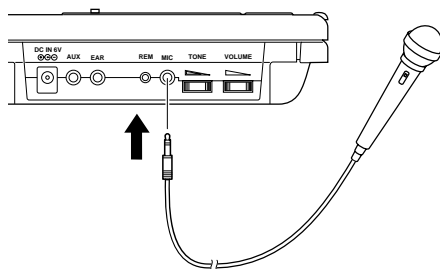
## Using an External Microphone

You can connect an external microphone (not supplied) with a  $\frac{1}{8}$ -inch plug to the CTR-109. Your local RadioShack store sells a variety of microphones.

**Note:** Connecting an external microphone automatically disconnects the built-in microphone.

Follow these steps to record using an external microphone.

1. Load a blank cassette tape, or one you want to record over, into the cassette compartment.
2. Insert the microphone's plug into the CTR-109's **MIC** jack.



**Note:** If the external microphone has a separate, smaller plug for remote operation, insert that plug into the **REM** jack. Then you can use the microphone's remote switch to stop or start recording.

3. Press **RECORD** to begin recording. Both **PLAY** and **RECORD** lock down.

**Note:** To temporarily stop recording, press **PAUSE**. Press **PAUSE** again to resume recording.

4. Speak into the external microphone.
5. Press **STOP/EJECT** to stop recording.

## Recording from a Connected Audio Source

You can record directly from an external audio source, such as a radio, tape deck, or CD player. To make the connection, you need a suitable mono patch cord with a  $\frac{1}{8}$ -inch plug (available at your local RadioShack store).

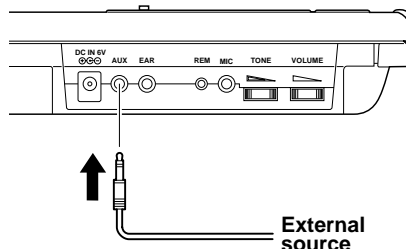
**Note:** Before you connect an external audio source to the recorder, be sure the source's and the recorder's volume controls are set to their minimum settings.

Follow these steps to record from an external audio source.

**Note:** If you connected an external microphone, disconnect it.

1. Load a blank cassette tape, or one you want to record over, into the cassette compartment.

2. Connect the external source to the **AUX** jack using a patch cord with a 1/8-inch plug.



3. Start the external audio source and set its volume control to a normal listening level.
4. Press **RECORD** to begin recording. Both **PLAY** and **RECORD** lock down.

**Note:** To temporarily stop recording, press **PAUSE**. To resume recording, press **PAUSE** again.

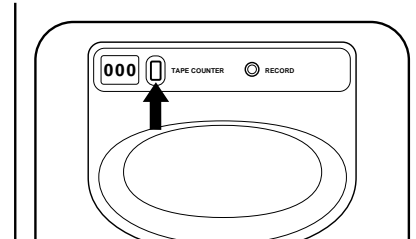
5. Press **STOP/EJECT** to stop recording. Then stop the audio source.

**Note:** During recording, the speaker is muted. If you want to monitor the recording, use the supplied earphone.

## USING THE TAPE COUNTER

You can use the tape counter to help you find specific locations on the tape.

At the beginning of a tape, press **TAPE COUNTER** to reset the tape counter to 000. Then note the counter's reading at the beginning of each selection.



To return to a selection, fast-forward or rewind the tape until the counter shows the noted reading.

## TAPE TIPS

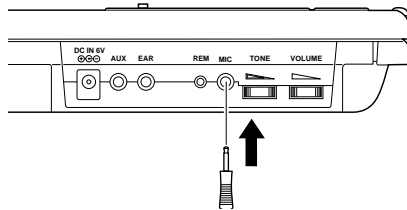
### Recommended Tapes

Tape quality greatly affects the quality of the recording. We recommend extended-range or low noise Type 1 regular length (60- or 90-minute) normal-bias cassette tapes. We do not recommend long-play cassette tapes such as C-120s because they are thin and can easily tangle.

### Erasing a Cassette Tape

To record over a cassette tape, simply record as usual. The cassette deck records over the previous recording.

To erase the entire cassette tape, insert the supplied erasing plug into the **MIC** jack and press **RECORD**. (Be sure you have not connected anything to the **AUX** jack.)

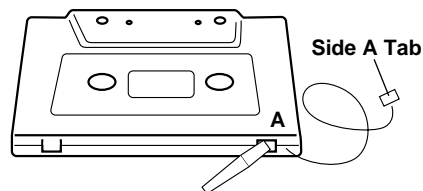


If you need to erase an entire cassette, you might prefer using a bulk tape eraser, available at your local RadioShack store.

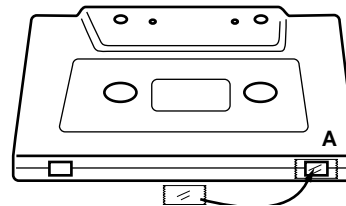
## Preventing Accidental Erasure

Cassette tapes have two erase-protection tabs — one for each side. When a tab is in place, you can record on that side.

To protect a recording from being accidentally recorded over or erased, use a screwdriver to remove one or both of the cassette tape's erase-protection tabs. This prevents **RECORD** from being pressed.



If you later decide to record on a tape side after you have removed its erase-protection tab, place a piece of strong plastic tape over that side's erase-protection hole. Be sure you cover only the hole originally covered by the erase-protection tab.



**Caution:** Removing the erase-protection tabs does not prevent a bulk eraser from erasing a cassette tape.

## Restoring Tape Tension and Sound Quality

After you play a cassette tape several times, the tape might become tightly wound on the reels. This can cause playback sound quality to deteriorate.

To restore the sound quality, fast-forward the tape from the beginning to the end of one side, then completely rewind it. Then loosen the tape reels by gently tapping each side of the cassette's outer shell on a flat surface.

**Caution:** Be careful not to damage the cassette when tapping it. Do not touch the exposed tape or allow any sharp objects near the cassette.

## MAINTENANCE

Your RadioShack CTR-109 AC•DC Portable Cassette Recorder is an example of superior design and craftsmanship. The following suggestions will help you care for your CTR-109 so you can enjoy it for years.



Keep the CTR-109 dry. If it gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.



Handle the CTR-109 gently and carefully. Dropping it can damage circuit boards and cases and can cause the CTR-109 to work improperly.



Use and store the CTR-109 only in normal temperature environments. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.



Keep the CTR-109 away from dust and dirt, which can cause premature wear of parts.



Wipe the CTR-109 with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the CTR-109.

Modifying or tampering with the CTR-109's internal components can cause a malfunction and might invalidate your CTR-109's warranty. If your CTR-109 is not performing as it should, take it to your local RadioShack store for assistance.

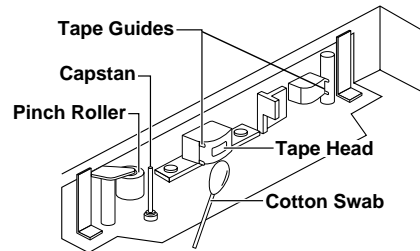
## CLEANING THE TAPE-HANDLING PARTS

Dirt, dust, or particles of the tape's coating can accumulate on the tape heads and other parts that the tape touches. This can cause noise and poor high-frequency response which can greatly reduce the cassette player's performance.

To help keep the cassette player working at its best, clean the cassette player's tape-handling parts after every 20 hours of use using a tape cleaning kit, such as Cat. No. 44-1115.

1. Remove the batteries and disconnect any other power source.
2. Open the cassette compartment cover.
3. Press the erase-protection tab sensor, then **RECORD** to expose the tape-handling parts.

4. Gently clean the capstan, pinch roller, tape guides, and record/play head.



5. When you finish cleaning, press **STOP** and close the compartment door. Then reconnect power.

## SPECIFICATIONS

### CASSETTE PLAYER

Track System .....	2-Track Monaural
Tape Speed .....	4.75 cm/s
Recording System .....	AC Bias
Frequency Response (@ $\pm 6$ dB) .....	125 Hz– 6.3 kHz
Signal-to-Noise Ratio .....	40 dB
Wow and Flutter (WRMS) .....	Less Than 0.35%

### GENERAL

Power Requirements .....	AC 120V, 60 Hz, or Four C Batteries, or DC 6V with Optional Adapter (Cat. No. 273-1802)
Dimensions (HWD) .....	$9\frac{5}{8} \times 5\frac{1}{2} \times 1\frac{7}{8}$ Inches (246 $\times$ 141 $\times$ 47 mm)
Weight (without batteries) .....	1.12 lbs (0.508 kg)
Included Accessories .....	Erase Plug Earphone AC Power Cord

Specifications are typical; individual units might vary. Specifications are subject to change without notice.

### Limited Ninety-Day Warranty

This product is warranted by RadioShack against manufacturing defects in material and workmanship under normal use for ninety (90) days from the date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. EXCEPT AS PROVIDED HEREIN, RadioShack MAKES NO EXPRESS WARRANTIES AND ANY IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES CONTAINED HEREIN. EXCEPT AS PROVIDED HEREIN, RadioShack SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY USE OR PERFORMANCE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES RESULTING FROM INCONVENIENCE, LOSS OF TIME, DATA, PROPERTY, REVENUE, OR PROFIT OR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF RadioShack HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

In the event of a product defect during the warranty period, take the product and the RadioShack sales receipt as proof of purchase date to any RadioShack store. RadioShack will, at its option, unless otherwise provided by law: (a) correct the defect by product repair without charge for parts and labor; (b) replace the product with one of the same or similar design; or (c) refund the purchase price. All replaced parts and products, and products on which a refund is made, become the property of RadioShack. New or reconditioned parts and products may be used in the performance of warranty service. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This warranty does not cover: (a) damage or failure caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, lightning or other incidence of excess voltage or current; (b) any repairs other than those provided by a RadioShack Authorized Service Facility; (c) consumables such as fuses or batteries; (d) cosmetic damage; (e) transportation, shipping or insurance costs; or (f) costs of product removal, installation, set-up service adjustment or reinstallation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

RadioShack Customer Relations, Dept. W, 100 Throckmorton St., Suite 600, Fort Worth, TX 76102

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